

Key 291  
8.7 HW

p458 17, 19, 21, 24, 28, 32-34

17.  $4x + y^2 = 20$   
 $4x^2 + y^2 = 100$   
 $-4x - y^2 = -20$

parabola  
ellipse

19. <sup>circle</sup>  $x^2 + y^2 = 64$   
<sup>ellipse</sup>  $x^2 + 64y^2 = 64$

$$4x^2 - 4x = 80$$

$$x^2 - x - 20 = 0$$

$$(x-5)(x+4)$$

$$x = 5 \quad x = -4$$

$$(5, 0) (-4, \pm 6)$$

$$63y^2 = 0$$

$$y^2 = 0$$

$$y = 0$$

$$(8, 0) (-8, 0)$$

21.  $y^2 = x^2 - 25$   
 $x^2 - y^2 = 7$   
 $-x^2 + y^2 = -25$

$$0 = -18$$

No sol'n

24.  $3x^2 - 26y^2 - 12x + 80y = 96$   
 $3x^2 + 26y^2 - 86y = 48$

$$6x^2 - 12x - 144 = 0$$

$$x^2 - 2x - 24 = 0$$

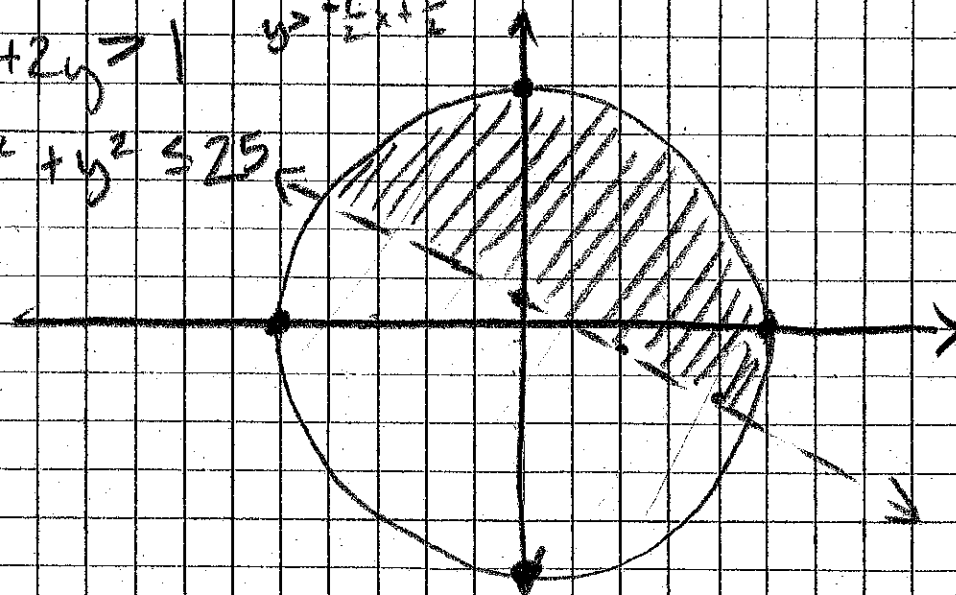
$$(x-6)(x+4) = 0$$

$$x = 6 \quad x = -4$$

$$(6, 3)(6, 1)(-4, 4)(-4, 0)$$

28. See desmos acct.

32. line  $x+2y \geq 1$   $y \geq -\frac{1}{2}x + \frac{1}{2}$   
 circle  $x^2 + y^2 \leq 25$

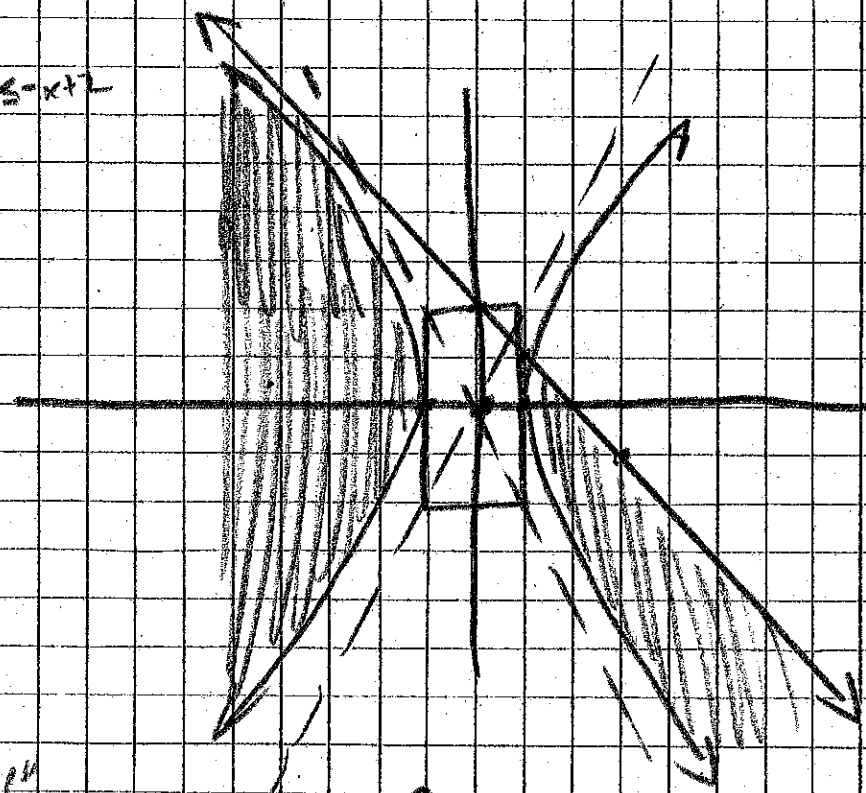


33.  $x+y \leq 2$  line  $y \leq -x+2$

$4x^2 - y^2 \geq 4$  hyper.

$\frac{x^2}{1} - \frac{y^2}{4} \geq 1$

C(0,0)



34.  $x^2 + y^2 \geq 4$  circle  
 $4y^2 + 9x^2 \leq 36$  ellipse

$\frac{x^2}{4} + \frac{y^2}{9} \leq 1$

C(0,0)

a=2  
b=3

